

REVUS 250 SC

Version 2

Revision Date 27.07.2007

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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**PRODUCT INFORMATION**

Product name : REVUS 250 SC

Design Code : A12946B

Use : Fungicide

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2. HAZARDS IDENTIFICATION

Unlikely to be hazardous.

3. COMPOSITION/INFORMATION ON INGREDIENTS**Hazardous components**

Chemical Name	CAS-No.	EC-No.	Symbol(s)	R-phrase(s)	Concentration
mandipropamid	374726-62-2		N	R51/53	23.3 % W/W
naphthalenesulfonic acid, sodium salt, polymer with formaldehyde	9008-63-3		Xi	R36/38	1 - 5 % W/W
1,2-propanediol	57-55-6	200-338-0			5 - 10 % W/W

For the full text of the R phrases mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

General advice : Have the product container, label or Material Safety Data Sheet with you when calling the Syngenta emergency number, a poison control center or physician, or going for treatment.

Inhalation : Remove to fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Keep patient warm and at rest.
Call a physician or Poison Control Centre immediately.

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| Skin contact | : | Take off all contaminated clothing immediately.
Wash off immediately with plenty of water.
If skin irritation persists, call a physician.
Wash contaminated clothing before re-use. |
| Eye contact | : | Rinse immediately with plenty of water, also under the eyelids,
for at least 15 minutes.
Remove contact lenses.
Immediate medical attention is required. |
| Ingestion | : | If swallowed, seek medical advice immediately and show this
container or label.
Do NOT induce vomiting. |
| Medical advice | : | There is no specific antidote available. Treat symptomatically. |

5. FIRE-FIGHTING MEASURES

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| Suitable extinguishing media | : | Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Extinguishing media - large fires
Alcohol-resistant foam
or
Water spray |
| Extinguishing media which shall not be used for safety reasons | : | Do not use a solid water stream as it may scatter and spread fire. |
| Specific hazards during fire fighting | : | As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10).
Exposure to decomposition products may be a hazard to health. |
| Special protective equipment for fire-fighters | : | Wear full protective clothing and self-contained breathing apparatus. |
| Further information | : | Do not allow run-off from fire fighting to enter drains or water courses.
Cool closed containers exposed to fire with water spray. |

6. ACCIDENTAL RELEASE MEASURES

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| Personal precautions | : | Refer to protective measures listed in sections 7 and 8. |
| Environmental precautions | : | Prevent further leakage or spillage if safe to do so.
Do not flush into surface water or sanitary sewer system. |
| Methods for cleaning up | : | Contain spillage, and then collect with non-combustible |

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absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Additional advice : If the product contaminates rivers and lakes or drains inform respective authorities.

7. HANDLING AND STORAGE**HANDLING**

Advice on safe handling : No special protective measures against fire required.
Avoid contact with skin and eyes.
When using, do not eat, drink or smoke.
For personal protection see section 8.

STORAGE

Requirements for storage areas and containers : No special storage conditions required.
Keep containers tightly closed in a dry, cool and well-ventilated place.
Keep out of the reach of children.
Keep away from food, drink and animal feedingstuffs.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters

Components	Exposure limit(s)		Value type	Source
1,2-propanediol	10 mg/m ³ 150 ppm 470 mg/m ³	Particulates Total (vapour & particulates)	8 h TWA	UK HSE
mandipropamid	10 mg/m ³		8 h TWA	SYNGENTA

ENGINEERING MEASURES

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

If airborne mists or vapors are generated, use local exhaust ventilation controls.

Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit.

Where necessary, seek additional occupational hygiene advice.

PERSONAL PROTECTIVE EQUIPMENT

Protective measures : The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice. Personal protective equipment should be certified to appropriate standards.

Respiratory protection : No personal respiratory protective equipment normally required. A particulate filter respirator may be necessary until effective technical measures are installed.

Hand protection : Chemical resistant gloves are not usually required. Select gloves based on the physical job requirements.

Eye protection : Eye protection is not usually required. Follow any site specific eye protection policies.

Skin and body protection : No special protective equipment required. Select skin and body protection based on the physical job requirements.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form : suspension
Colour : off-white to brownish

pH : 5 - 9 at 1 % w/v
Flash point : > 101 °C at 100.3 kPa Pensky-Martens c.c.

Oxidizing properties : not oxidizing

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Explosive properties	: Not explosive
Density	: 1.072 g/cm ³
Miscibility	: Miscible
Viscosity, dynamic	: 45.0 - 338 mPa.s at 40 °C
	: 56.2 - 424 mPa.s at 20 °C
Surface tension	: 36.4 mN/m at 20 °C

10. STABILITY AND REACTIVITY

Hazardous decomposition products	: Combustion or thermal decomposition will evolve toxic and irritant vapors.
Hazardous reactions	: None known. Hazardous polymerization does not occur. Stable under normal conditions.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	: LD50 female Rat, > 5,000 mg/kg
Acute dermal toxicity	: LD50 male and female Rat, > 5,000 mg/kg
Skin irritation	: Rabbit: Non-Irritating
Eye irritation	: Rabbit: Non-Irritating
Sensitisation	: Buehler Test guinea pig: Not a skin sensitizer in animal tests.
Long term toxicity	: Did not show carcinogenic, teratogenic or mutagenic effects in animal experiments.

12. ECOLOGICAL INFORMATION**ELIMINATION INFORMATION (PERSISTENCE AND DEGRADABILITY)**

Biodegradability	: Not readily biodegradable.
Bioaccumulation	: Mandipropamid has low potential for bioaccumulation
Stability in soil	: Mandipropamid is not persistent in soil.
Mobility	: Mandipropamid has low mobility in soil.

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ECOTOXICITY EFFECTS

- Toxicity to fish** : LC50 Oncorhynchus mykiss (rainbow trout), > 100 mg/l , 96 h
: LC50, LC50 Cyprinus carpio (Carp), > 100 mg/l , 96 h
- Toxicity to aquatic invertebrates** : EC50 Daphnia magna (Water flea), > 100 mg/l , 48 h
- Toxicity to algae** : ErC50 Pseudokirchneriella subcapitata (green algae), > 100 mg/l , 72 h
: EbC50 Pseudokirchneriella subcapitata (green algae), 15.3 mg/l , 72 h

13. DISPOSAL CONSIDERATIONS

- Product** : Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not dispose of waste into sewer.
Where possible recycling is preferred to disposal or incineration.
If recycling is not practicable, dispose of in compliance with local regulations.
- Contaminated packaging** : Empty remaining contents.
Triple rinse containers.
Empty containers should be taken for local recycling or waste disposal.
Do not re-use empty containers.

14. TRANSPORT INFORMATION**Land transport***ADR/ RID:*

Regulation: Not dangerous goods

Sea transport*IMDG:*

Regulation: Not dangerous goods

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Air transport*IATA-DGR*

Regulation: Not dangerous goods

15. REGULATORY INFORMATION**Labelling according to EC Directives**

S-phrase(s) : S 2 Keep out of the reach of children.
S13 Keep away from food, drink and animal feedingstuffs.
S20/21 When using do not eat, drink or smoke.

Special labelling of certain preparations : Safety datasheet available on request for professional users. To avoid risks to man and the environment, comply with the instructions for use.

Note : Not a hazardous substance or preparation according to EC-directives 67/548/EEC or 1999/45/EC.

16. OTHER INFORMATION**Further information**

Text of R phrases mentioned in Section 2:

R36/38 Irritating to eyes and skin.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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